HECO RT-5
DOCKET NO. 03-0371

REBUTTAL TESTIMONY OF
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ENERGY SERVICES DEPARTMENT
HAWAIIAN ELECTRIC COMPANY, INC.

Subject: RATE DESIGN

INTRODUCTION

Q. Please state your name, position, and business address.

A. My name is Estrella A. Seese. I am the Director of Pricing Division, Energy Services Department, Hawaiian Electric Company, Inc. My business address is 220 South King Street, Suite 1201, Honolulu, Hawaii.

Q. Have you sponsored any other written testimony in this proceeding?

A. Yes. I submitted direct testimony HECO T-5 on the same subject, Rate Design.

Q. What will you cover in your rebuttal testimony?

A. My rebuttal testimony will present HECO/HELCO/MECO's (collectively the "Companies") rebuttal testimony and position on the rate design issues and proposals presented by the Consumer Advocate ("CA") and the County of Maui ("COM"). Additional details in support of the Companies' position on the various rate design issues and proposals are presented by Dr. Douglas Gegax in HECO RT-5A.

RATE DESIGN ISSUES AND PROPOSALS BY OTHER PARTIES

Q. What are the rate design issues and proposals by the CA and COM that you will be addressing in your rebuttal testimony?

A. My rebuttal testimony will cover the Companies' position on the CA's proposal on rate unbundling to effectively deploy distributed generation ("DG"). Dr. Doug Gegax will present a detailed discussion of the concepts of rate unbundling including the unbundling methodologies, as well as the issues and experiences of other jurisdictions in rate unbundling, and why unbundling is not necessary in the deployment of DG facilities in Hawaii.

My testimony will also address the COM's proposals relating to:

1) establishment of generation impact fees for new and expanded loads for all customers, including residential and non-residential customers;
2) standby service rate form; and
3) establishing inverted rates for the residential class, eliminating the Companies' rate Schedules J and P and replacing it with time-of-use rates, and the COM's proposal for consideration of performance-based ratemaking ("PBR") options.

Dr. Doug Gegax, HECO RT-5A, will also provide further discussions of the flaws and inconsistencies in the COM's proposals relating to the above issues, and why they should be rejected by the Commission as unreasonable and/or irrelevant to this docket.

RATE UNBUNDLING

Q. Please summarize the CA's proposal regarding rate unbundling.

A. The CA contends that to effectively deploy DG, the Companies' current rate structure needs to be unbundled and its tariff rates be modified so that the DG customers connected to the utility grid are able to pay for the generation, transmission, and distribution services and back-up services provided by the utility. (See CA-T-1, Page 8, Lines 1-5.) The CA believes that the utility's rates need to be unbundled so that the utility's cost of service to DG customers are recovered from those customers, and not shifted to, and recovered from, other utility ratepayers. (CA-T-1, Page 23, Lines 16-18.)

Q. Do you agree with the CA's position that unbundling rates is necessary to effectively deploy DG?

A. No. The Companies' do not agree that rate unbundling is necessary to effectively

deploy DG. It appears that the CA's proposal to unbundled rates is driven by its goal to ensure that the DG customers are charged cost-based rates for the services that they continue to receive from the utilities. The Companies agree and believe in charging the DG customers, as well as all other customer classes, cost-based rates. The Companies have always advocated fair, reasonable, and equitable rates that are based on cost of service for all rate classes, and not only for some customer class such as the DG customers. Unlike the CA, however, the Companies do not believe that unbundling rates or disaggregating the rates into the functional categories is the only way, nor is necessary, to ensure cost-based rates for DG customers to effectively deploy DG.

As stated in my direct testimony, HECO T-5, page 15, lines 15-20, and further discussed by Dr. Doug Gegax in HECO RT-5A, the unbundling of costs and rates was required by the unbundling of the functional services provided by the regulated vertically-integrated power companies in those jurisdictions that have adopted some form of retail competition or customer choice. This instant proceeding is not about mandating retail competition or the unbundling of the functional services provided by the Companies.

Q. Doesn't distributed generation offer a form of customer choice in power supply?

A. Yes. However, while distributed generation offers some customers alternative power supply options, it is not the same as the retail competition or open access that has been mandated in other states which essentially deregulated the electric power market. The deregulation of the utility power industry in those states disaggregated the functional services that used to be provided by vertically-integrated utilities in a regulated monopoly structure. With such deregulation came the end of the utilities' obligation to serve under the franchise which

accorded them the exclusive right to provide power service in their service area. The deployment of DG in Hawaii does not take away the utilities' obligation to serve. The utilities will continue to provide the 'bundled services' of generation, transmission, distribution and ancillary services, to customers such as the DG customer. The rate unbundling as proposed by the CA will not ensure cost-based rates for DG customers, nor is it necessary for ensuring such cost-based rates for the effective deployment of DG.

Q. Why would rate unbundling as proposed by the CA not ensure cost-based rates for DG customers, nor is necessary for ensuring such cost-based rates for the effective deployment DG?

A. Rate unbundling as proposed by the CA will not ensure cost-based rates for DG customers, nor is it necessary in ensuring such cost-based to effectively deploy DG, for the following reasons:

1. The CA's proposal to unbundled rates and at the same time keep the revenues from the unbundled rates the same as the revenues from the bundled rates will not result in, nor will it ensure cost-based rates for DG customers. As discussed in my direct testimony, the Companies' current bundled rates reflect substantial cross-subsidies. (See HECO T-5, page 12-14, and HECO-501.) By simply unbundling rates as proposed by the CA, without regard as to whether the costs reflected in the 'bundled' rates that are being unbundled reflect the true class's cost-of-service, will not ensure cost-based rates for the DG customers. In fact, this proposal will result in adverse rate impacts on other ratepayers in the future. Furthermore, it may adversely impact the deployment of DG as it would provide customers with the wrong price signal.
2. The DG customers who remain connected to the utility grid will continue to

require and receive all the functional services from the utility, including generation, transmission, distribution, and ancillary services. The determination of cost-based rates for DG customers, or for any customer class for that matter, is dependent on the determination of the classes' reasonable share of the costs of these functional services which are reflected in the rates of each customer class (e.g., DG customer class), and how these class' costs of service are recovered in the rates (e.g., demand costs are collected in the demand charge). Unbundling rates in and of itself will not ensure cost-based rates for DG customers. Cost-based rates for DG customers are dependent on the determination of this customer class' fair and reasonable share of the utility's costs of providing the various functional services, as well as the translation of these costs into rates.

3. As stated in my direct testimony, HECO T-5, page 15-16, the Companies' cost-of- service study method that is used as the basis for the current 'bundled' rates already unbundled the utilities' system costs into the functional service categories. I also indicated in my direct testimony that depending on the extent of the DG market that develops as a result of the DG policy framework from this docket, as well as the extent of availability of the required data, the Companies' cost-of-service study may be expanded to include the DG customers as a separate class in the study. This is based on the presumption that although the DG customers who remain connected to the grid will continue to require and receive 'bundled' services from the Companies, the degree and level of their requirements for these services will or may be different from the customers who receive their entire electric power requirements (full requirements customers) from the Companies. For

instance, the DG customers' need and requirement for transmission and distribution services from the utility will in general remain the same or similar as those of the full requirements customers. However, the DG customers' requirement for generation and generation-related ancillary services may vary between DG customers as well as from full requirements customers. This presumption of the cost –causation differences between DG customers and full requirements customers needs to be proven and verified. The proper assessment and determination of the costs caused by the DG customers will depend on the availability of the required data such as, but not limited to, the customers' DG capacity sizes, information on the customers' generating unit availability, frequency and duration of their down time, DG outage verification and reporting, DG customers' load characteristics such as system peak coincident demand, and the DG customers' demand diversity. Ensuring cost-based rates for DG customers requires the accurate determination or assessment of the costs imposed by the DG customers, and how those are translated into rates.

Q. Are there other reasons why rate unbundling is not necessary for the effective deployment of DG?

A. Yes. Dr. Doug Gegax's testimony in HECO RT-5A provides further discussions on rate unbundling, including the unbundling concepts, the issues, the requirements for unbundling, and why it is not necessary to effectively deploy DG.

Q. What current 'bundled' rates would apply to DG customers?

A. Until a specific rate schedule for DG customers is implemented, the HECO and MECO customers who install DG and remain connected to the grid will be served

under the current applicable rate schedule. The same is true for HELCO customers, except for the addition of the standby charge provided in HELCO's Rider A.

In addition, if the Commission approves the Companies' proposed Schedule CHP filed in Docket No. 03-0336, this rate schedule will apply to customers with utility-owned CHP systems installed on the customers' sites.

Q. Are the Companies proposing to implement rates that are specific to DG customers?

A. The Companies are not proposing rates specific to DG customers in this instant docket, which is intended to address policy issues relating to DG. Depending on the DG market size that develops, and the availability of the required data, the Companies may propose rates specific to DG customers in their next general rate case following the Commission's issuance of its decision and order in this instant docket, in order to reflect and/or incorporate the Commission's findings in the design of such rates.

Q. Please summarize the Companies' proposal regarding the CA's proposal on rate unbundling to ensure cost-based rates for DG customers for the effective deployment of DG?

A. The Companies agree and advocate cost-based rates not only for the DG customers, but for all rate classes. The Companies believe that the CA's proposal on rate unbundling will not ensure, nor is necessary, in establishing cost-based rates for DG customers. Rather, the Companies believe that establishing cost-based rates for DG customers is dependent on the proper assessment and determination of the costs caused by the DG customers, and how these costs are translated into rates. The Companies propose that the Commission reject the

CA's proposal to unbundle rates as it is unnecessary for ensuring and establishing cost-based rates for DG customers for the effective deployment of DG.

GENERATION IMPACT FEES

Q. What is the COM's proposal relating to generation impact fees?

A. The COM is proposing to establish a generation impact fee for new and expanded loads, in order to recover the cost of future new power plants. The COM's proposed generation impact fee is $2,000 per kW of the new customer's connected load. The COM is proposing to apply this impact fee to all customers – both residential and non-residential. A residential customer's typical connected load is about 5 kW, so that the COM's proposed generation impact fee translates to $10,000 for a typical new residential customer.

Q. What is the Companies' position on the COM's proposed generation impact fees?

A. The COM's proposed generation impact fee is the same as proposed for the Consumer Advocate by the same witness (Mr. James Lazar) and rejected by the Commission in a prior HELCO rate case, Docket No. 6999. In that docket, the Commission found the same proposal by the same witness as discriminatory as it charges new customers higher rates for essentially the same service, based simply on the customers' vintage. (See Docket No. 6999, Decision and Order No. 11893, page 101-102).

As discussed further by Dr. Doug Gegax in HECO RT-5A, the COM's impact fee proposal is unreasonable, lacking sound economic basis, and is contrary to the principle of cost-causation and cost-based rates. In addition, the COM's witness is unable to identify any utility that currently charges similar or the same generation impact fee that he is proposing. (See COM Response to

HECO/Maui-DT-IR-3 and COM Response to HECO/Maui-DT-IR-23, subpart d.) The Companies recommend that the Commission again reject the COM's proposal to establish a generation impact fee.

STANDBY SERVICE RATES

Q. What is standby service rate and what is it's role in the deployment of DG?

A. Standby service rate is a rate form designed for customers with alternate sources of power supply other than the utility, but require the utility to provide 'stand by' or 'back-up' power when their alternate supply of power is not available for any reason. Standby service is like an insurance policy where the utility has the obligation to serve (except for non-firm standby service), while the customer does not have the obligation to use.

As the number of customers with alternate sources of power supply other than the utility increases, and these customers remain connected to the utility grid, the need to establish and implement rates specific to these customers, such as standby rates, will become imperative in order for the utility to recover the costs of providing standby service to these customers, and protect the other rate payers.

Q. Do the Companies have standby service rates?

A. Only HELCO has a standby service rate provided in Rider A. HECO and MECO do not currently have standby service rates.

Q. Are you proposing to implement standby rates for HECO and MECO?

A. No. The Companies are not proposing to implement any specific tariff rates such as standby rates in this instant docket as mentioned earlier. The determination and design of an efficient standby service rates requires the proper assessment of the costs of providing standby service to customers, which requires extensive and

more detailed data that are not currently available. As stated earlier, the Companies may propose rates specific to DG customers, such as standby service rates, in its next general rate case following the Commission's issuance of its decision and order in this instant docket, in order to reflect and/or incorporate the Commission's findings in the design of such rates.

Q. How then did HELCO determine its current standby service rates provided in its Rider A?

A. The rates, terms, and conditions of HELCO's standby service rate rider (Rider A) that was approved by the Commission in Docket No. 99-0207, was based on a stipulated agreement between the CA and HELCO. The stipulated standby rate level includes a portion of the generation (20%) and transmission costs (52%), and all of the distribution demand costs (100%) allocated to HELCO's Schedules J and P customers.

Q. Did any of the other parties in this instant docket have any proposal relating to standby service rates?

A. Yes. The COM is proposing what it describes as a "reasonable" standby charge with lower fixed charge (e.g. lower fixed costs allocated to standby customers than full requirements tariff), and higher variable charge (e.g. higher energy rates than the energy rates for the full requirements customers) to recover a significant portion of the fixed costs. COM T-2 argues that the needs of standby customers are different from full requirements customers, and they should be allocated lower fixed costs than full requirements customers. The COM witness also alleges that serving standby service customers under MECO's current applicable rate schedule (e.g., Schedule P) results in these customers making an "excessive contribution" to MECO's fixed costs. (See COM-T-2, pages 70-71.)

Q. What is the Companies' position on the COM's proposed standby rate design?

A. The COM's proposed standby rate design with low fixed costs offset by higher energy charges is contrary to cost-based pricing and would perpetuate cross-subsidization. Most of the standby service rates, including the Southern California Edison's standby service tariff provided by the COM witness as an example of a "relatively progressive" form of a standby tariff, are generally designed in terms of demand charge (e.g., $/kW, $/kVa). And in most utilities, the standby service customers pay the same energy charge as full requirements customers. The COM's proposed standby rate design with usage-based recovery of the fixed costs (e.g., recovering fixed costs on the basis of kWh usage) would likely result in under recovery of the utility's fixed costs and result in an increase in rates to other ratepayers. The COM's proposed standby rate design could further result in inefficient pricing as it would underprice standby service and result in an inefficient DG market and uneconomic bypass.

Q. Do you have any comments regarding the COM's assertion that the needs of standby service customers are different from those of the full requirements customers?

A. As I stated earlier, the presumption of the differences in cost-causation between standby service customers and full requirements customers needs to be properly assessed, in order to determine the utility's costs of providing standby service and establishing cost-based standby service rates. This determination of the differences in the costs of serving standby service customers and full requirements customers will require detailed data on the standby service customers' generating units, load characteristics, and operating characteristics.

Q. Do you agree with COM T-2 that serving the standby service customers under

MECO's current applicable rates would result in these customers making "excessive contribution" to MECO's fixed costs?

A. No. The COM did not provide any evidence to support this statement. As the COM recognized in its testimony (COM-T-2, Page 73, Lines 17-19), a substantial portion of MECO's demand costs are recovered in the energy charge. If the standby service customers do not use kWh from the utility, it is unlikely that these customers would even pay the utility's fixed costs reflected in MECO's current applicable rates.

Q. What is the Companies' position regarding standby service rates?

A. The Companies may propose rates specific to DG customers, such as standby service rates, in its next general rate case following the Commission's issuance of its decision and order in this instant docket, in order to reflect and/or incorporate the Commission's findings in the design of such rates.

INVERTED RATES AND TIME-OF-USE RATES

Q. Are there other proposals relating to rate design made by COM in this docket?

A. Yes. The COM brought up some rate design issues which are not relevant to the instant docket on DG. The COM asserts that an inverted rate design for the residential class would be less expensive than implementing time-of-use rates for this class. The COM also recommends eliminating the current declining block rates for Schedules J and P and replacing it with time-of-use rates. (See COM-T-1, page 12-13.) And the COM recommends consideration of performance based ratemaking ("PBR").

Q. Do you have comments on the COM's proposal on inverted rate design for the residential class?

A. Yes. The COM's proposal on inverted rates for the residential class is irrelevant to this proceeding and should be rejected by the Commission for the following reasons:

1. The COM's proposal is irrelevant to the instant docket on DG. The residential customers are generally not the potential users of distribution generation.
2. The COM's inverted rate proposal for the residential class is not cost-based. Its proposal to minimize the customer charge would further exacerbate the intra-class subsidization within the residential class, with the high usage customers (including the low income large households and high usage customers) heavily subsidizing the low usage customers (including the high income and part-time residents). The customer charge in the residential rate schedule is already considerably lower than the residential customer costs. The COM's proposal is not cost-based, perpetuates intra-class subsidization, and would result in the utilities not recovering their fixed costs which in turn could increase rates to all customers in the future.
3. Inverted rates in the form of lifeline rates have been extensively reviewed by the Commission in Docket No. 3874, and rejected in its Decision and Order No. 6696 issued on June 26, 1981. The Commission's decision and order in that docket noted that inverted rates result in "assisting lower use households and penalizing higher use households. Family size was shown as an important factor in determining how much electricity a family consumes. Larger families use more electricity and poverty households tend to be larger than other households." (See Docket No. 3874, Decision

and Order No. 6696, page 132.)

4. Time-of-use rates may be a more effective rate form in encouraging customers to efficiently manage their load. Time-of-use rates are cost-based and represent more efficient pricing and will provide customers with appropriate price signals.

Q. Do the Companies have residential time-of-use rates?

A. HECO currently has a pilot residential time-of-use rate program. The program is a 3-year program that began in May 2003, and is limited to 200 residential customers. The program was designed to determine the residential customers' response to time-of-use pricing, as well as to determine the potential residential customers' subscription rate to time-of-use rates and the sustainability of such residential participation or subscription to such rate offering. The program is currently in progress with a total of 160 customers, and the data collection on the customers' response to time-of-use pricing is continuing.

Q. Do you have comments on the COM's proposal to eliminate the current declining block rates for Schedules J and P, and replace it with time-of-use rates?

A. Yes. The COM's proposal to replace the current declining block rates for Schedules J and P with mandatory time-of-use rates is unreasonable, has no substantive basis, could result in uneconomic bypass, and is contrary to the rate design objectives and philosophy that the Companies have used and which the Commission has approved in all prior rate cases, such as rate continuity, rate stability and equitability, and avoidance of rate shock. I recommend that the Commission reject the COM's proposal for the following reasons:

1. The COM did not provide or offer any substantive justification for its proposal. Mandatory time-of-use rates could have severe economic and

costs impacts on customers who cannot respond to time-of-use pricing due to the nature of their business and/or operations. This could result in uneconomic bypass, which in turn could result in rate increases to other ratepayers in the future.

2. The Companies have been offering various forms of time-of-use rates, referred to as load management riders, to commercial and industrial customers on an optional basis since 1981. These load management riders include Rider T, Rider M, and Rider I. In addition, a stand alone time-of-use rate schedule for large customers, Schedule U, was implemented beginning in 1991. The availability of the Companies' various time-of-use rates, alongside the current Schedules J and P, offer customer choice and flexibility to the commercial customer to select the rate form that provides them with the best economic incentives for their energy efficiency efforts that best meets their energy needs without adversely impacting their business operations.

Q. Please describe briefly the various time-of-use rates that are offered by the Companies.

A. The Companies' load management riders, as well as the stand-alone Schedule U, provide alternative time-of-use pricing incentives for customers to shift their load away from the system priority peak hours. These riders provide customers with incentives to manage their load through an adjustment or modification to the determination of customers' billing kW demand, which reduces their energy bill. The following provides a brief explanation of each of these load management riders:

1. Rider T - Time-of-Day Rider

Rider T provides time-of-use service to commercial and industrial customers served under Schedules J or P, with kW demand of at least 25 kW. To encourage customers to manage their load and shift their usage to off-peak hours, Rider T modifies the determination of the billing demand in the regular applicable rate schedule by considering only the customer's maximum measured demand occurring during the on-peak hours in the determination of the billing kW demand. To the extent that the customer is able to shift most of his load to off-peak hours, this modification to the regular schedule's billing demand determination lowers the customer's demand charge as well as energy charges. In addition, the customer's kW loads during the off-peak hours are not charged the demand charge.

A total of 62 customers are currently served under Rider T across all 3 Companies (HECO has 26, HELCO has 9, and MECO has 27).

2. Rider M - Off-Peak and Curtailable Service

Rider M provides two service options: Option A – Off-Peak Service, and Option B – Curtailable Service. Like Rider T, the Companies' Rider M – Option A provides incentives to customers to shift their load to the off-peak period by modifying the determination of the billing kW demand in the regular applicable rate schedule, by considering only the customer's maximum demand occurring during the on-peak period in the demand ratchet calculation. This modification to the determination of billing kW demand effectively reduces the customer's demand and energy charges to the extent that the customer is able to shift most of his/her load to the off-peak hours.

Rider M - Option B encourages customers to curtail their load during the system priority peak hours defined from 5:00 P.M. to 9:00 P.M., Monday to

Friday, or to curtail their load during a 2-hour period specified in their Rider M contract. In exchange for load curtailment, the customer's billing kW demand under the regular applicable rate schedule is reduced by 40% to 75% of the customer's curtailed kW load. As in Rider M – Option A, this modification to the customer's billing kW demand effectively reduces his demand charge as well as his energy charge.

A total of 54 customers are taking service under the Companies' Rider M (HECO has 24, HELCO has 25, and MECO has 5).

3. Rider I - Interruptible Contract Service

Rider I provides interruptible service to large customers. The standard service contract provides for a maximum of 15 service interruptions per year and a maximum of 8 hours service interruption per billing period, and requires customers to install an underfrequency relay. In exchange for allowing the Company to interrupt their service, the customers' billing kW demand under the applicable regular rate schedule is reduced by 30% of their interruptible load.

HECO has 5 customers receiving interruptible service under Rider I.

4. Schedule U – Time-of-Use Service

Schedule U provides time-differentiated rates to large customers. The demand charge is applied only to the customer's maximum measured kW demand occurring during the on-peak hours. The energy rates are differentiated by time-of-use rating periods. There are 4 customers currently receiving service under HECO's Schedule U.

A copy of the Companies riders and Schedule U is provided in HECO-RT-500.

Q. Are any of the COM offices or facilities receiving service under any of these riders?

A. Yes. Some of the COM Board of Water Supply facilities are currently served under Rider M(B), and some wastewater treatment facilities are served under Rider T. The COM has numerous accounts with load sufficient to qualify for any of these riders.

Q. What do you think would be the impact of the COM's proposal to replace the current Schedules J and P with mandatory time-of-use rates on the COM itself?

A. As stated earlier, implementing mandatory time-of-use rates could have severe economic or cost impact on customers, including the COM. The COM's proposal does not take into account the impact on customers, nor on the utilities, nor on the COM itself. It is unreasonable and should be rejected by the Commission.

Q. Do you have comments on the COM's proposal for Commission's consideration of PBR options?

A. Yes. PBR is not relevant to the instant docket on DG, and should be disregarded. The first of a series of PUC-sponsored workshops intended to gather information for use by the PUC to carry out the mandates of Act 95, have been scheduled for November 22-23, 2004. Act 95, 2004 Hawaii Session Laws, directs the Commission among other things, to develop and implement ratemaking structure including but not limited to PBR which could provide incentives to the utilities to adopt cost-effective renewable resources to meet Hawaii's renewable portfolio standards established in H.R.S. Sec. 269-92. PBR may be best addressed in those PUC-sponsored workshops.

SUMMARY AND CONCLUSION

Q. Please summarize your testimony.

A. My testimony provided the Companies' position on the various rate design issues

and proposals brought forth by the CA and COM in this docket. These issues and the Companies position are briefly summarized below:

1. The Companies agree with and advocate cost-based rates not only for DG customers, but for all rate classes. However, unlike the CA, the Companies do not believe that rate unbundling is necessary in ensuring cost-based rates for DG customers for the effective deployment of DG. Rather, the Companies believe that ensuring cost-based rates for DG customers require the proper assessment of the costs of providing service to these customers.
2. The COM's proposal on impact fees is not relevant to the instant docket, is unreasonable, lacks sound economic basis, and is contrary to the principle of cost-causation and cost based rates, and should be rejected by the Commission.
3. The COM's proposed standby rate design with low fixed charge and higher energy charges would likely underprice standby service and result in an inefficient DG market and uneconomic bypass.
4. The Companies may propose rates specific to DG customers in their next general rate case following the Commission's issuance of its decision and order in this instant docket, in order to reflect and/or incorporate the Commission's findings in the design of such rates.

Q. Does this conclude you testimony?

A. Yes.